

New Horizons

Non-Lethal Technology

Edward Vasel “Dr. Pepper”

Jose Marrero, President and CEO

Jaycor Tactical Systems

**Seattle WTO
December 1, 1999**



February 16, 2002 Olympic Riot





Social Need

Economic Imperative

Moral Mandate



**Population of the
World Will Grow
from
the Current 6.1
Billion to 7.2 Billion
by 2015**

Social Needs

- **Trends:**

- Baby Boom in Emerging Nations
- Developed Nations as “Peacekeepers”
- Threat of Terrorism
- Political Shift to Center

- **Implications:**

- Younger More Aggressive Behavior Against Perceived Injustice
- Cannot Be Effective With Significant Use of Lethal Force
- Restrictions to Control Chaos
- Balance Between Civil Liberties and Law and Order



RESULT IS CIVIL UNREST!!!!

Economic Imperative

- **Trends:**

- Economic Polarization
- Budget Restrictions on Social Services
- Increased Litigation

- **Implications:**

- Disappearing Middle Class – Haves/ Have Nots Will Lead to Social Unrest
- Fewer Dollars for Law Enforcement
- Fewer Dollars for Police on the Street

LEADS TO CIVIL UNREST!!!!



Non Lethal Force

- \$\$ -Police called to scene
 - Suspect resists arrest
- \$ -Police launch PepperBalls
 - Suspect is shot
 - Suspect is taken into custody after pepper wears off
- \$ -Report/Review of incident

Police Shoot Man Brandishing Rock

Lethal Force

- \$\$ -Police called to scene
 - Suspect resists arrest
 - Police fire weapons
 - Suspect is shot
- \$\$\$ -Medical called to scene
 - \$\$ -Coroner called to scene
- \$\$\$ -Supervisors called to scene
- \$\$\$ -Investigators called to scene
- \$\$\$ -Shooting Investigation takes place
- \$\$\$ -Internal Affairs Investigation
- \$\$\$ -Officers Attorney called to scene
- \$\$\$ -Possible officer injuries
- \$\$\$ -Officers questioned and placed on administrative duty or paid leave
- \$\$\$ -Medical/Stress Relief aid for officers involved
 - \$\$ -Autopsy examination
 - Possible prosecution of officers
- \$\$\$\$ -Possible civil lawsuit filed against Police Department on behalf of shot suspect's family
 - \$\$\$ -Critical Incident Review
 - \$\$ -Training Review
 - \$\$ -Risk Management Review
 - \$\$ -Work Compensation Review
 - \$\$ -Work Compensation Hearing
 - \$\$\$ -Possible early retirement of officers involved
 - \$\$\$ -Training of new officers for replacement

Moral Mandate

- **Trends:**

- Globalization
- Information Explosion
- Aging of the Western Population

- **Implications:**

- Worldwide Pressure on Human Rights Abuses
- Instant Access to News Globally – Political Fall Out
- Less Aggressive Nature Within the Population – Will Not Abide Another “Kent State”



LEADS TO CIVIL UNREST!!!!

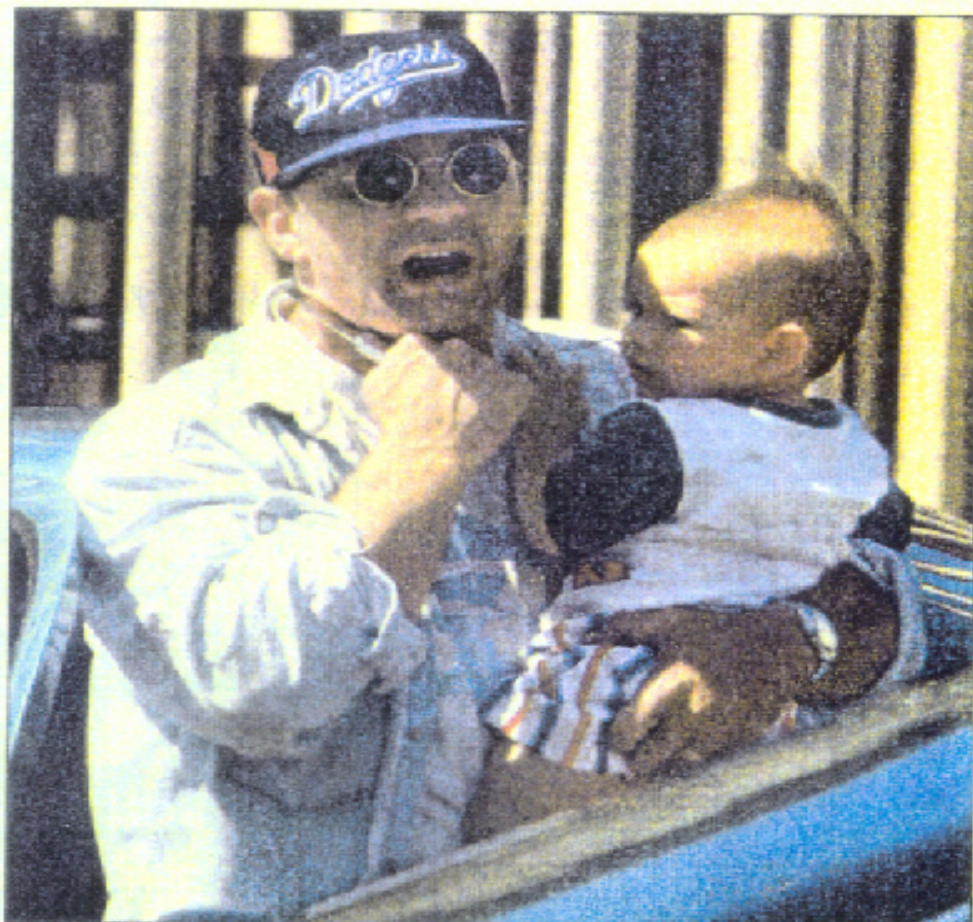


Tuesday
April 21, 1998

The San Diego

Union-Tribune.

Border drama



FRED GREAVES photos. Special to the Union-Tribune

Standoff: Edward Price held a knife to his throat and his 10-month-old son in his arms after leading police on a high-speed pursuit to the U.S.-Mexican border, where Al Morales (left), a supervisory customs inspector, leaned forward to negotiate, backed by police. The baby was unhurt.

Officers grab suspect after wild chase from T A

NOVEMBER 1998

VOLUME 22, NUMBER 11

THREE DOLLARS

POLICE

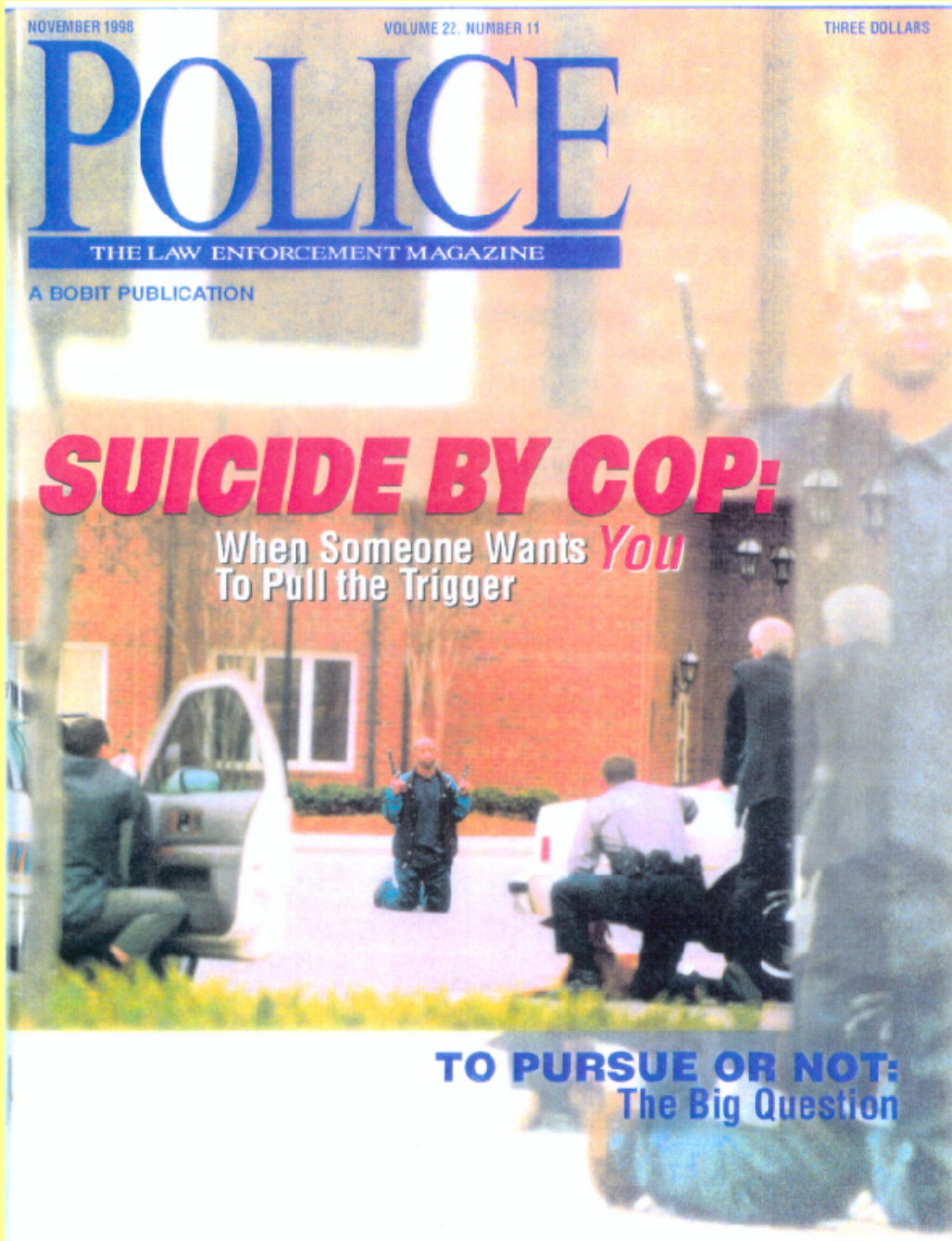
THE LAW ENFORCEMENT MAGAZINE

A BOBIT PUBLICATION

SUICIDE BY COP:

When Someone Wants *You*
To Pull the Trigger

TO PURSUE OR NOT:
The Big Question



TIME

SEPTEMBER 11
2001



“With this increase will come unrest, shortages, conflicts, crimes and demonstrations? Non-lethal technology (NLT) will be necessary to control and prevent major conflict.” – M2



Armed Attacker



Suicide by Cop



Civil Disobedience



One officer can engage multiple rioters.

Officer Protection



Area Denial



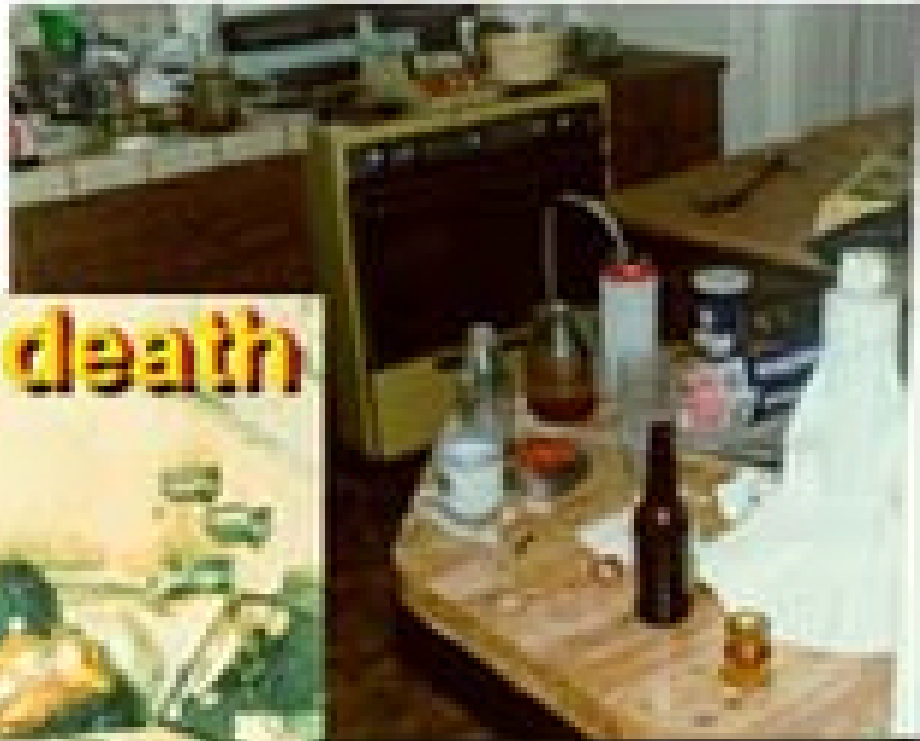
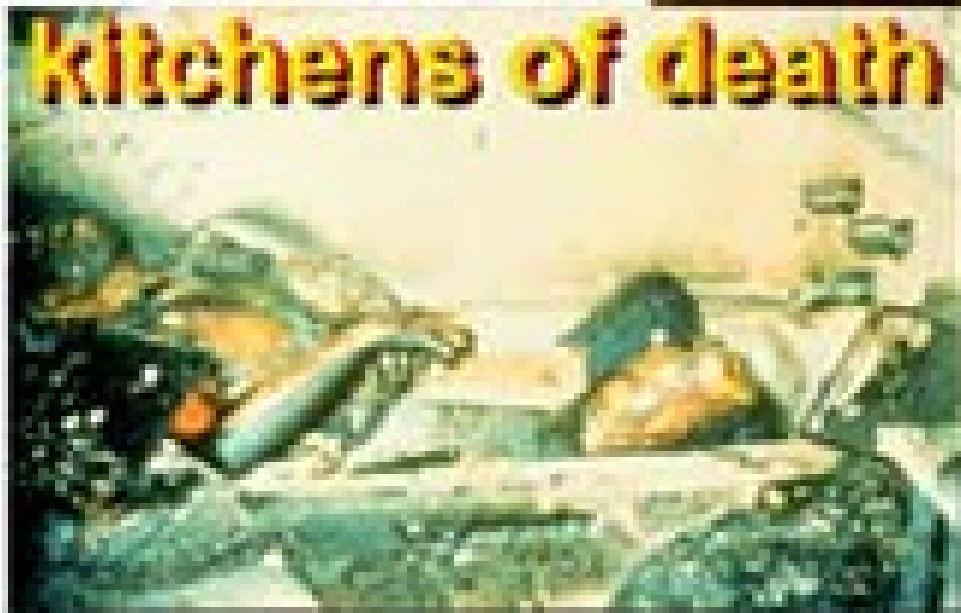
Corbis.com

Tactical Training



Drug Labs

**Meth labs:
kitchens of death**

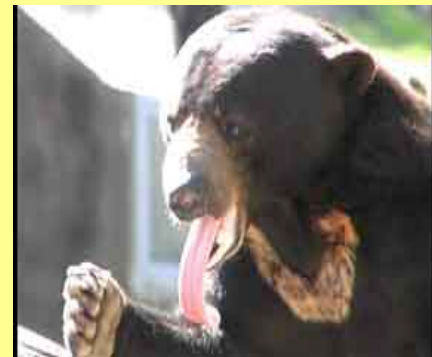
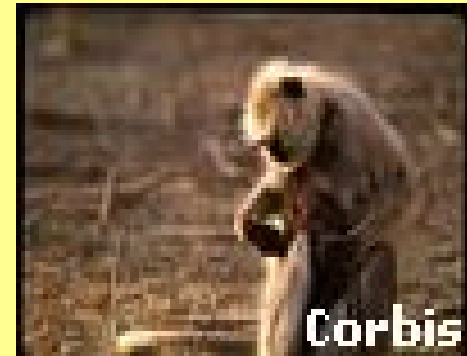


**CLICK HERE
FOR MORE INFO**

Vessel Interdiction



Animal Control

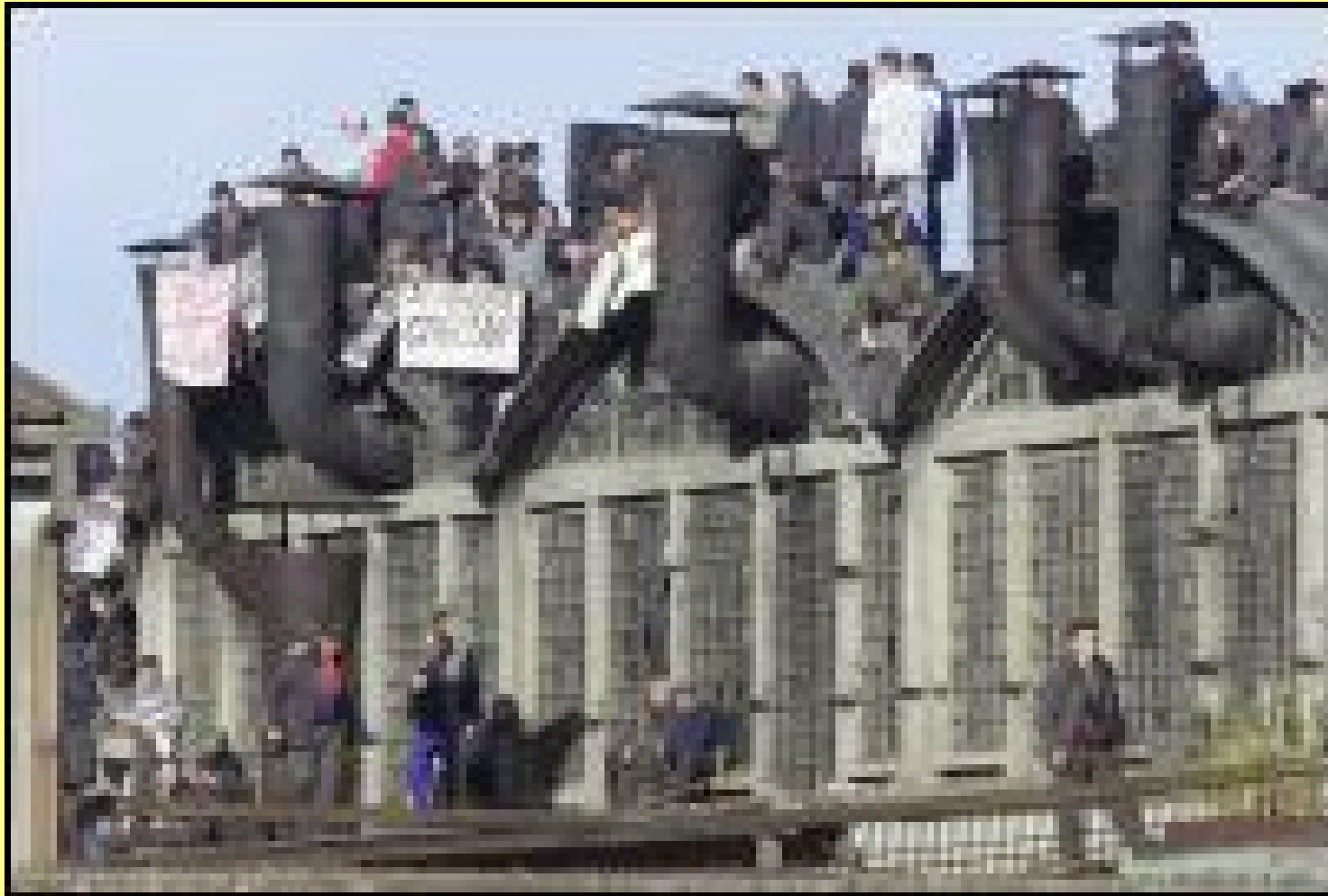


Dislodge Suspect



(Courtesy WSB-TV)

Prison and Jail Disturbances



(AP PHOTO)

“Now more than ever, the minimal level of public tolerance for collateral damage and loss of human life, ... necessitates an effective and flexible application of force through non-lethal weapons.”

General James L. Jones, United States Marine Corps





University News Service



May 18, 1970 / 50 cents

Newsweek

NIXON'S HOME FRONT



May 4, 1970

Evolution of Non-Lethal Technology





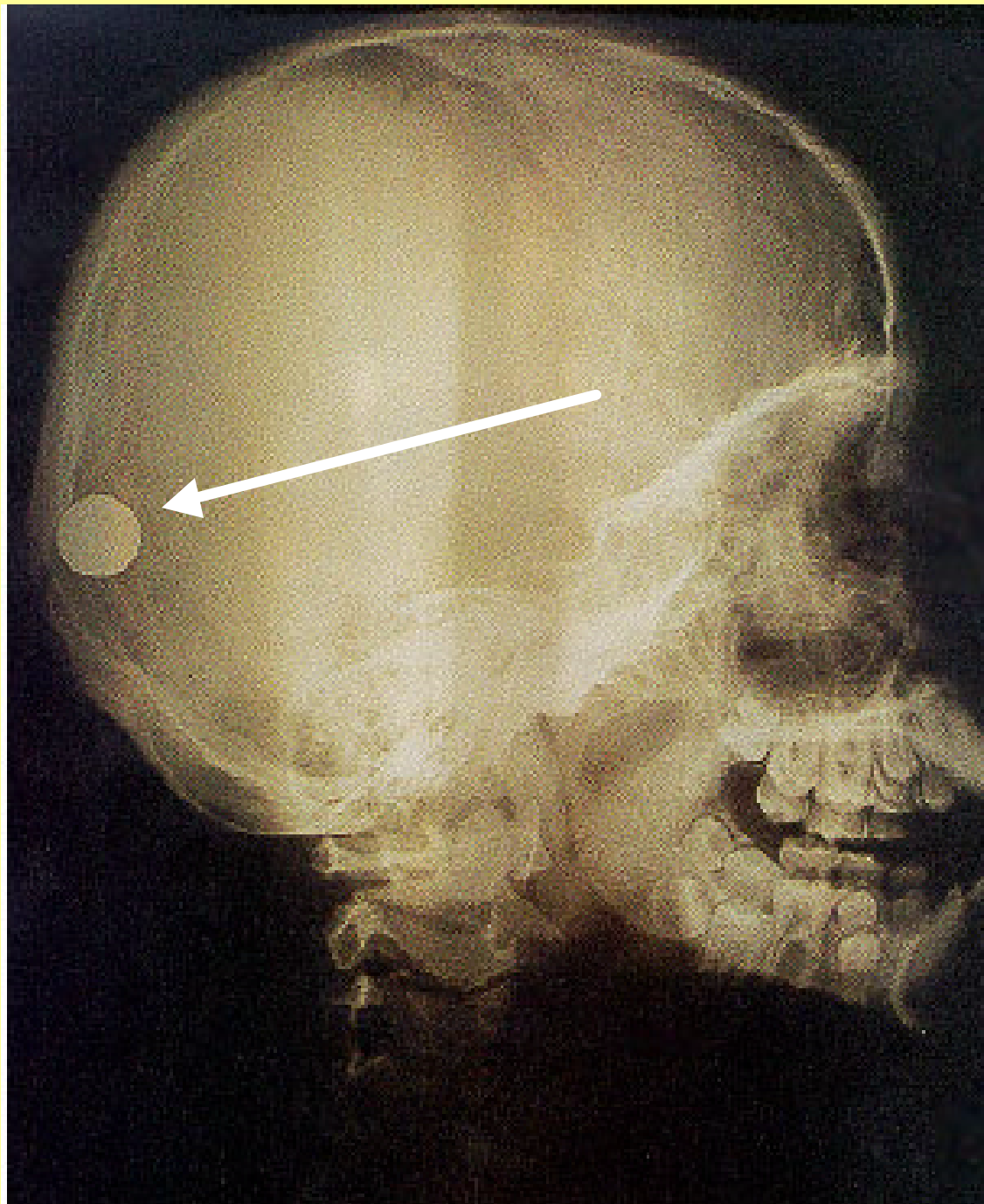
Pepper Spray

Electric Shock Technology





IMPACT DEVICES





"The next giant leap in
non-lethal technology"



What is **PepperBall**?



- **Triple Threat**
 - Psychological Response
 - Kinetic Impact
 - Chemical Agent
- **Multiple Targets**
- **Extended Range**







Is it Safe?

U.S. Army Land Warfare Laboratory

- **Safe**

- **Below 30 foot pounds (PepperBall)**

- **Dangerous**

- **Energies between 30 and 90 foot pounds (Batons)**

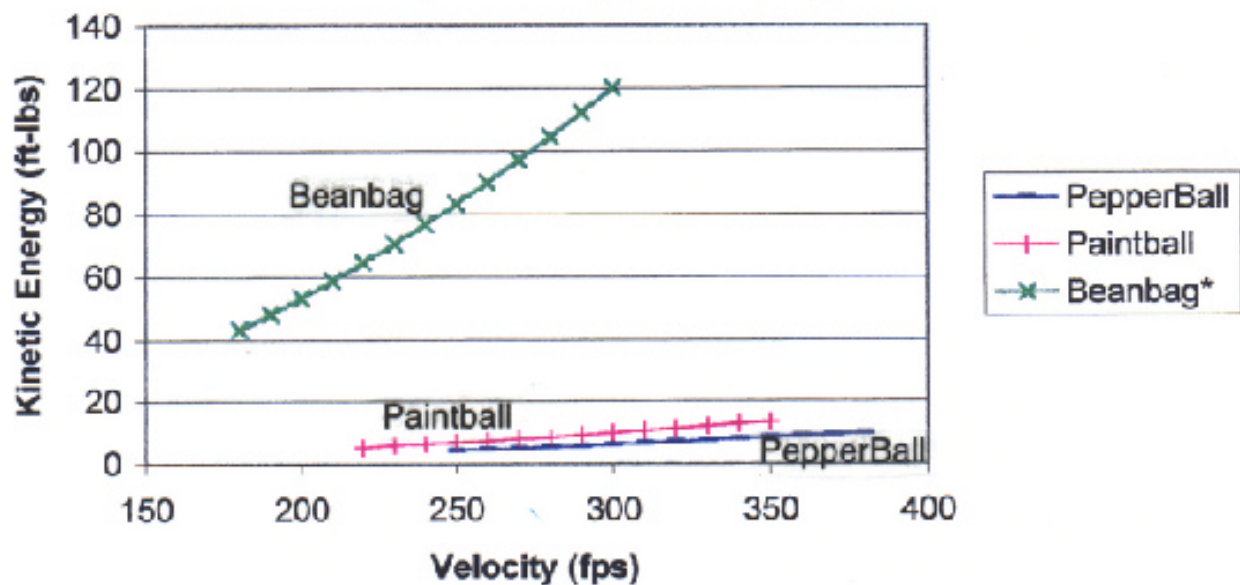
- **Sever Damage**

- **Occurs if impact exceeds 90 foot pounds (Bean Bags)**

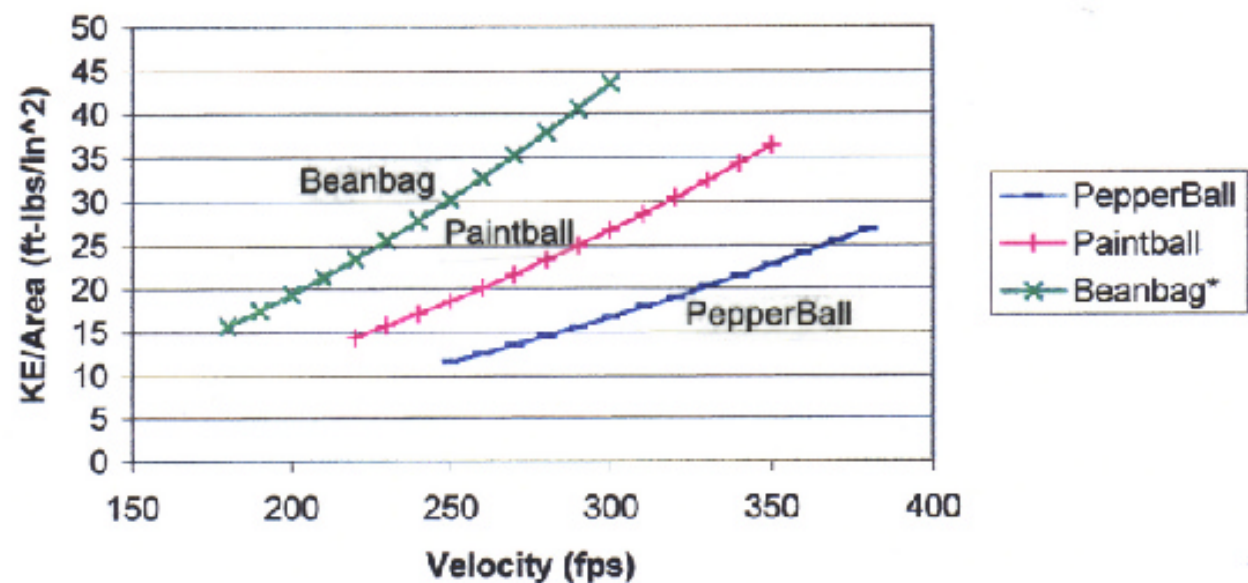
$$KE = \frac{1}{2} m v^2$$

Lethal	= High Mass + High Velocity
Less Lethal	= High Mass + Low Velocity
Non Lethal	= Low Mass + Low Velocity

Impact Energy vs Velocity



Impact Energy/Area vs Velocity





PepperBall Blunt Trauma Examples



35



45



55



 **PepperBall™**

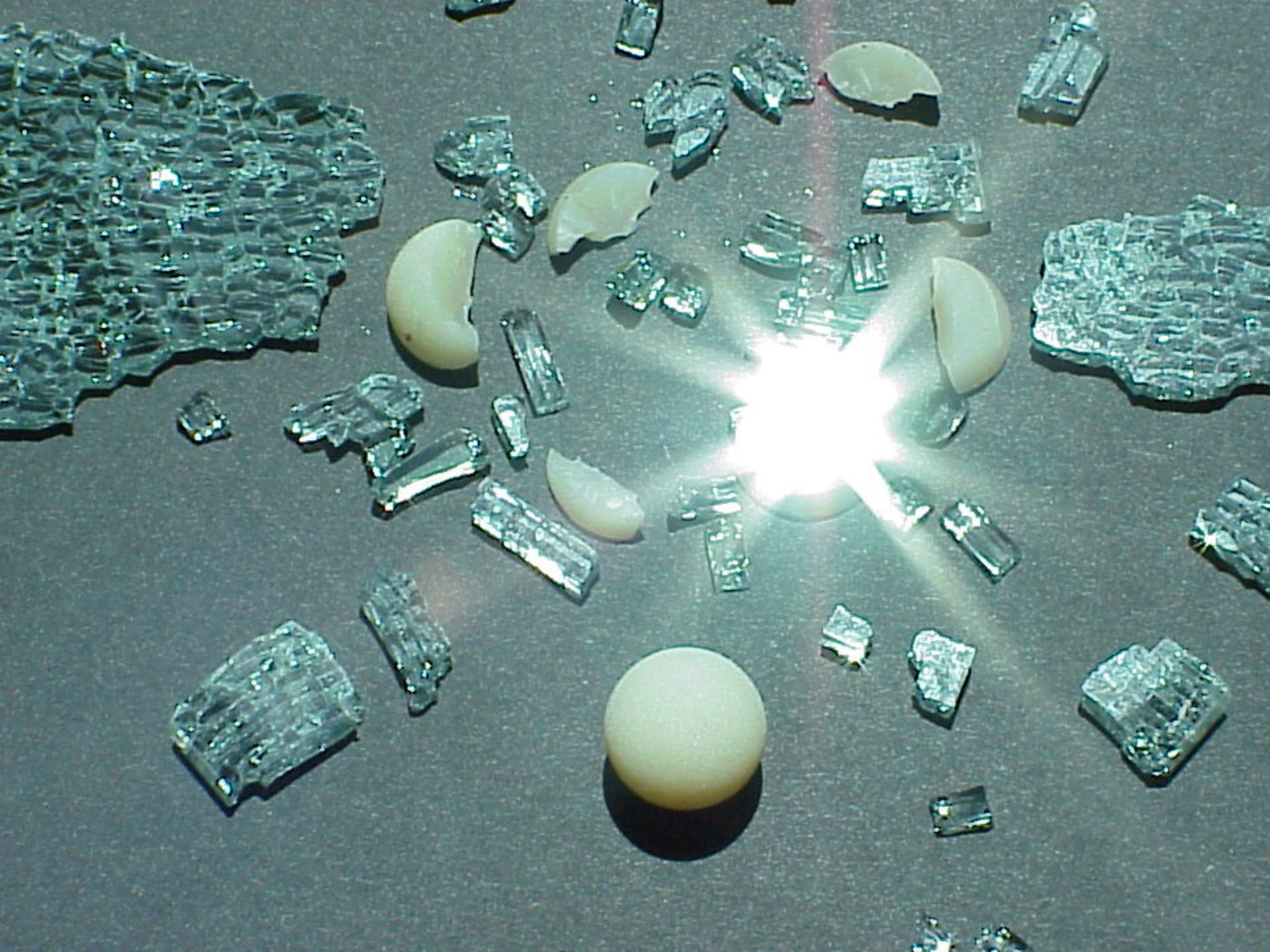


**Does it
Work?**



What's Next??







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